

RECEIVED Page 1 of 7
xx (6)

JUN 21 2001

TECH CENTER 1600/2900¹⁶⁴⁶

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/749,589

DATE: 05/17/2001

TIME: 08:51:11

Input Set : A:\Seqlist.txt

Output Set: N:\CRF3\05172001\I749589.raw

ENTERED

4 <110> APPLICANT: GUEGLER, Karl et al
5 <120> TITLE OF INVENTION: ISOLATED HUMAN TRANSPORTER PROTEINS,
6 NUCLEIC ACID MOLECULES ENCODING HUMAN TRANSPORTER PROTEINS,
7 AND USES THEREOF
8
9 <130> FILE REFERENCE: CL000861
10 <140> CURRENT APPLICATION NUMBER: 09/749,589
11 <141> CURRENT FILING DATE: 2000-12-28
12 <160> NUMBER OF SEQ ID NOS: 4
13 <170> SOFTWARE: FastSEQ for Windows Version 4.0
14 <210> SEQ ID NO: 1
15 <211> LENGTH: 2262
16 <212> TYPE: DNA
17 <213> ORGANISM: Human
18 <400> SEQUENCE: 1
19 atgagccgc ccaggccccg ctacgtggta gacagagccg cataactccct tacccttcttc 60
20 gacgatgagt ttgagaagaa ggaccggaca taccggatgg gagagaaact tcgcaatgcc 120
21 ttcagatgtt cctcagccaa gatcaaagct gtgggtttt ggctgctgcc tgcgtctcc 180
22 tggctccccca agtacaagat taaagactac atcattcctg acctgctcgg tggactcgc 240
23 gggggatcca tccaggccc acaaggcatg gcatttgc tgctggccaa ctttcctgca 300
24 gtcataatggcc tctactccct cttcttcccc ctccctgaccc acttcttctt ggggggtgtt 360
25 caccagatgg tgccaggatgtt ctttgcgtt atcagcatcc tgggtggtaa catctgtctg 420
26 cagctggccc cagactcgaa attccaggc ttcaacaatg ccaccaatga gagctatgtg 480
27 gacacagcag ccatggaggc tgagaggctg cactgttcg ctacgctacg ctgcctcacc 540
28 gccatcatcc agatgggtct gggcttcatg cagtttggct ttgtggccat ctacccctcc 600
29 gagtccttca tccggggctt catgacggcc gccggcctgc agatcctgtat ttccgggtc 660
30 aagtacatct tcggactgtac catccctcc tacacaggcc cagggtccat cgtctttacc 720
31 ttcattgaca ttgcaaaaaa cttccccccac accaacatcg ctcgcgtcat cttcgcctc 780
32 atcagcggtg cttccctgtt gctggtaag gagctcaatg ctgcgtacat gcacaagatt 840
33 cgcttccccca tccctacaga gatgattgtg gtgggtgtt caacagctat ctccggggc 900
34 tgtaagatgc caaaaaaatg tcacatgcag atcgtgggag aaatccaaacg cgggtcccc 960
35 accccgggtt cgcctgtgtt ctcacagtgg aaggacatgta taggcacacg cttccctca 1020
36 gccatcgta gctacgtcat caacctggct atggggccgaa ccctggccaa caagcacggc 1080
37 tacgacgtgg attcgaacca ggagatgtc gctctcggtt gcagcaactt ctttggctcc 1140
38 ttctttaaaa ttcatgtcat ttgctgtgcg ctttctgtca ctctggctgtt ggatggagct 1200
39 ggaggaaaaat cccaggtggc cagccctgtgt gtgtctctgg tggtgatgat caccatgtc 1260
40 gtcctggggta ttatctgtta tcctctccct aagtctgtgc taggagccct gatcgtgtc 1320
41 aatctcaaga actccctcaa gcaactcacc gaccctact acctgtggag gaagagcaag 1380
42 ctggactgtt gcatctgggtt agtgaggttc ctctcccttct ttttccctcag cctggccstat 1440
43 ggtgtggcag tgggtgtcgc ctctccgtc ctggctgtgg tttccctcag tttccctcag 1500
44 aatggctatg cactggccca ggtcatggac actgacattt atgtgaatcc caagacctat 1560
45 aatagggccccc aggatattca ggggataaaa atcatcactgtt actgctcccc tctctacttt 1620
46 gccaactcag agatcttcag gcaaaaggc atcggcaaga ctgtctccct gcaggagct 1680
47 cagcaggact ttgagaatgc gccccccacc gaccccaaca acaaccagac cccgctaac 1740
48 ggcaccagcg tgccttatat caccttcagc cctgacagct cctcacctgc ccagagtgag 1800
49 ccaccagcct cccgtctggccccc cccggcgag cccagtgaca tgctggccag cgtcccaccc 1860
50 ttcgtcacct tccacacccct catcctggac atgagttggag tcaagcttcgt ggacttcatg 1920
51 qqcatcaagg ccctqgccaa qctqactcc acctatqqqa agatcggcgt qaaqgtttc 1980

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/749,589

DATE: 05/17/2001

TIME: 08:51:11

Input Set : A:\Seqlist.txt

Output Set: N:\CRF3\05172001\I749589.raw

58 ttggtaaca tccatgccca ggtgtacaat gacattagcc atggaggcggt ctttgaggat 2040
 59 gggagtctag aatgcaagca cgtttccc agcatacatg acgcagtcct ctttgcgg 2100
 60 gcaaatgcta gagacgtgac cccagacac aacttccaag gggctccagg ggtatgtgag 2160
 61 ctctccttgc acgactcaga ggaggacatt cgccagctact gggacttaga gcaggagatg 2220
 62 ttcgggagca tgtttacgc agagaccctg accgcctgt ga 2262
 64 <210> SEQ ID NO: 2
 65 <211> LENGTH: 753
 66 <212> TYPE: PRT
 67 <213> ORGANISM: Human
 69 <400> SEQUENCE: 2
 70 Met Ser Gln Pro Arg Pro Arg Tyr Val Val Asp Arg Ala Ala Tyr Ser
 71 1 5 10 15
 72 Leu Thr Leu Phe Asp Asp Glu Phe Glu Lys Lys Asp Arg Thr Tyr Pro
 73 20 25 30
 74 Val Gly Glu Lys Leu Arg Asn Ala Phe Arg Cys Ser Ser Ala Lys Ile
 75 35 40 45
 76 Lys Ala Val Val Phe Gly Leu Leu Pro Val Leu Ser Trp Leu Pro Lys
 77 50 55 60
 78 Tyr Lys Ile Lys Asp Tyr Ile Ile Pro Asp Leu Leu Gly Gly Leu Ser
 79 65 70 75 80
 80 Gly Gly Ser Ile Gln Val Pro Gln Gly Met Ala Phe Ala Leu Leu Ala
 81 85 90 95
 82 Asn Leu Pro Ala Val Asn Gly Leu Tyr Ser Ser Phe Phe Pro Leu Leu
 83 100 105 110
 84 Thr Tyr Phe Phe Leu Gly Gly Val His Gln Met Val Pro Gly Thr Phe
 85 115 120 125
 86 Ala Val Ile Ser Ile Leu Val Gly Asn Ile Cys Leu Gln Leu Ala Pro
 87 130 135 140
 88 Glu Ser Lys Phe Gln Val Phe Asn Asn Ala Thr Asn Glu Ser Tyr Val
 89 145 150 155 160
 90 Asp Thr Ala Ala Met Glu Ala Glu Arg Leu His Val Ser Ala Thr Leu
 91 165 170 175
 92 Ala Cys Leu Thr Ala Ile Ile Gln Met Gly Leu Gly Phe Met Gln Phe
 93 180 185 190
 94 Gly Phe Val Ala Ile Tyr Leu Ser Glu Ser Phe Ile Arg Gly Phe Met
 95 195 200 205
 96 Thr Ala Ala Gly Leu Gln Ile Leu Ile Ser Val Leu Lys Tyr Ile Phe
 97 210 215 220
 98 Gly Leu Thr Ile Pro Ser Tyr Thr Gly Pro Gly Ser Ile Val Phe Thr
 99 225 230 235 240
 100 Phe Ile Asp Ile Cys Lys Asn Leu Pro His Thr Asn Ile Ala Ser Leu
 101 245 250 255
 102 Ile Phe Ala Leu Ile Ser Gly Ala Phe Leu Val Leu Val Lys Glu Leu
 103 260 265 270
 104 Asn Ala Arg Tyr Met His Lys Ile Arg Phe Pro Ile Pro Thr Glu Met
 105 275 280 285
 106 Ile Val Val Val Ala Thr Ala Ile Ser Gly Gly Cys Lys Met Pro
 107 290 295 300
 108 Lys Lys Tyr His Met Gln Ile Val Gly Glu Ile Gln Arg Gly Phe Pro

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/749,589

DATE: 05/17/2001

TIME: 08:51:11

Input Set : A:\Seqlist.txt

Output Set: N:\CRF3\05172001\I749589.raw

109	305	310	315	320
110	Thr Pro Val Ser Pro Val Val Ser Gln Trp Lys Asp Met Ile Gly Thr			
111	325	330	335	
112	Ala Phe Ser Leu Ala Ile Val Ser Tyr Val Ile Asn Leu Ala Met Gly			
113	340	345	350	
114	Arg Thr Leu Ala Asn Lys His Gly Tyr Asp Val Asp Ser Asn Gln Glu			
115	355	360	365	
116	Met Ile Ala Leu Gly Cys Ser Asn Phe Phe Gly Ser Phe Phe Lys Ile			
117	370	375	380	
118	His Val Ile Cys Cys Ala Leu Ser Val Thr Leu Ala Val Asp Gly Ala			
119	385	390	395	400
120	Gly Gly Lys Ser Gln Val Ala Ser Leu Cys Val Ser Leu Val Val Met			
121	405	410	415	
122	Ile Thr Met Leu Val Leu Gly Ile Tyr Leu Tyr Pro Leu Pro Lys Ser			
123	420	425	430	
124	Val Leu Gly Ala Leu Ile Ala Val Asn Leu Lys Asn Ser Leu Lys Gln			
125	435	440	445	
126	Leu Thr Asp Pro Tyr Tyr Leu Trp Arg Lys Ser Lys Leu Asp Cys Cys			
127	450	455	460	
128	Ile Trp Val Val Ser Phe Leu Ser Ser Phe Phe Leu Ser Leu Pro Tyr			
129	465	470	475	480
130	Gly Val Ala Val Gly Val Ala Phe Ser Val Leu Val Val Val Phe Gln			
131	485	490	495	
132	Thr Gln Phe Arg Asn Gly Tyr Ala Leu Ala Gln Val Met Asp Thr Asp			
133	500	505	510	
134	Ile Tyr Val Asn Pro Lys Thr Tyr Asn Arg Ala Gln Asp Ile Gln Gly			
135	515	520	525	
136	Ile Lys Ile Ile Thr Tyr Cys Ser Pro Leu Tyr Phe Ala Asn Ser Glu			
137	530	535	540	
138	Ile Phe Arg Gln Lys Val Ile Ala Lys Thr Val Ser Leu Gln Glu Leu			
139	545	550	555	560
140	Gln Gln Asp Phe Glu Asn Ala Pro Pro Thr Asp Pro Asn Asn Gln			
141	565	570	575	
142	Thr Pro Ala Asn Gly Thr Ser Val Ser Tyr Ile Thr Phe Ser Pro Asp			
143	580	585	590	
144	Ser Ser Ser Pro Ala Gln Ser Glu Pro Pro Ala Ser Ala Glu Ala Pro			
145	595	600	605	
146	Gly Glu Pro Ser Asp Met Leu Ala Ser Val Pro Pro Phe Val Thr Phe			
147	610	615	620	
148	His Thr Leu Ile Leu Asp Met Ser Gly Val Ser Phe Val Asp Leu Met			
149	625	630	635	640
150	Gly Ile Lys Ala Leu Ala Lys Leu Ser Ser Thr Tyr Gly Lys Ile Gly			
151	645	650	655	
152	Val Lys Val Phe Leu Val Asn Ile His Ala Gln Val Tyr Asn Asp Ile			
153	660	665	670	
154	Ser His Gly Gly Val Phe Glu Asp Gly Ser Leu Glu Cys Lys His Val			
155	675	680	685	
156	Phe Pro Ser Ile His Asp Ala Val Leu Phe Ala Gln Ala Asn Ala Arg			
157	690	695	700	

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/749,589

DATE: 05/17/2001

TIME: 08:51:11

Input Set : A:\Seqlist.txt

Output Set: N:\CRF3\05172001\I749589.raw

158 Asp Val Thr Pro Gly His Asn Phe Gln Gly Ala Pro Gly Asp Ala Glu
 159 705 710 715 720
 160 Leu Ser Leu Tyr Asp Ser Glu Glu Asp Ile Arg Ser Tyr Trp Asp Leu
 161 725 730 735
 162 Glu Gln Glu Met Phe Gly Ser Met Phe His Ala Glu Thr Leu Thr Ala
 163 740 745 750
 164 Leu
 168 <210> SEQ ID NO: 3
 169 <211> LENGTH: 24526
 170 <212> TYPE: DNA
 171 <213> ORGANISM: Human
 173 <220> FEATURE:
 174 <221> NAME/KEY: misc_feature
 175 <222> LOCATION: (1)...(24526) /
 176 <223> OTHER INFORMATION: n = A,T,C or G
 178 <400> SEQUENCE: 3
 179 ctgggttccat atgtggggag gtcatgctcc ccactcattt agccccccca ggcaaaccac 60
 180 ctggacagcc agacccatgc agactctgga gcaggtggag aggaagagtg agaccacccc 120
 181 gcctcacggg cggtaaggg ccggcagcct ctgaatagtc tctgcttagga ggtagaaagc 180
 182 accctcccat cttaatcata gtaatcatcg ccactaccat ttactgggtg cctataaaag 240
 183 gcaagcctct tcatacacat gatctcaactg aatcctcata gcatctgcct gcgactgtta 300
 184 ttatccccat ttacagatga agaaaactgaa tctttgaacc caggtcatct ggctctcaaa 360
 185 cttgtgtgt tttcccttaag ccacccggc tctcatttct cccactgaaa tgcttcacat 420
 186 gcaattgccc ttactcattt ctgcccattt ctccctccaaa acaccatttca tcaattcgct 480
 187 caacaagtagt gtgttgagta cacactaagg gccaggcgag gggctggca caggcgctgg 540
 188 gggtaggttc attctccac ctgcgttct gctgggtatc acctgtgggg tcttgcggg 600
 189 catccccaccc tcacctgttag ttcaagtggc ctttggatc ccaagaccaa atgaatggaa 660
 190 tgcaccagcc cagccttcac caacttgagc acaatcttat tcataataga aactcacatt 720
 191 tgcacacac tttacatttt acacaacccc ttcttatcca ttaactcatt tgatcttcac 780
 192 aacaaccctg tgagatatgt ctgttactcc cacttttagt atacagaatc tgaggtttga 840
 193 aaagtaatgc tgaccattct gcctcattaa taaaaggcagg attaaccagg gctccctggac 900
 194 cttccacaa aaggcattaa gcaacctgtt cccctctgac aaccccccgt tcacccagg 960
 195 ctctcctctg ggaagtttggg ggcacatctta gcccccaagt agttactcat ttcaacccc 1020
 196 atctcaaatc ttttgcacaa ctggccacag ccacccacaca ctcccccaccc cccagataca 1080
 197 aatctcaact ctaagccttc cccatctctt tcttctctgt ccttctttct ctgtggct 1140
 198 ctgagcaact tctcccactt ctgggaggtt gaggggaggtt gggagaccca gtaattggaa 1200
 199 gagggagggg gaaagggttcc tacagggAAC tcctccgggc ctcagggggc ctggcactca 1260
 200 gctctgcca tctcagctcc tggAACgtca gccagggtgc gcaaaaagt aggaggagag 1320
 201 gagggcagt acacaagggtt gggggaaaga tttaggcacag gaagccgtgg gagagagac 1380
 202 cggcagggtgg accatcctgg ttcccccacca cacaccatttgc tccccctggg aaacctgttg 1440
 203 gtgaagttct agatgttca tccaagaagg gtcctcttgc ggtcatctca gctatcccc 1500
 204 tgctcttagg caagctgtt tctgtttctt ccaagctgac tggctgaatg ttaggagcc 1560
 205 ttctgcccagg gaaactaagg tctgggagg gatgtggct tgggggaca ccaggggtca 1620
 206 ggggggggg gggccacact gctgaatcaa gtggggcctc ctgcctctgt gatccccctt 1680
 207 tgctctgtgc tcagtggggg ttagtgggtac gcccacagggtt tggagtgcac gccacgtgt 1740
 208 gagcgccaag caaaacagcc aggggtgagtc tatgcacatc cagtgctgg gaagggaggc 1800
 209 cactgcgagc agggagttctg acggaaaaac ttgacagagg gaagggaggc accttgcttt 1860
 210 atcggggcgg ggaaggccag aataaaaactc tgctactgca aggaccagag agagaaggcc 1920
 211 tggctggca ctagggaggg atgttccctc accctccctt cctctgcttc tcccaaagct 1980

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/749,589

DATE: 05/17/2001
TIME: 08:51:11

Input Set : A:\Seqlist.txt
Output Set: N:\CRF3\05172001\I749589.raw

212 tgtaaatgcc ccagatatga gccagccag gccccgtac gtggtagaca gagccgcata 2040
 213 ctcccttacc ctcttcgacg atgagttga gaagaaggac cgacatacc cagtgggaga 2100
 214 gaaacticgc aatgcctca ggtacttgt ccagagccca gacttctgcc tcctctgctc 2160
 215 cctaccaaaa tccttctgc accaggacac gccttctgca ctggtatccc taagatgggg 2220
 216 ttaagggaaag ccctgggaa gtgaggttct gaatgtatggaa ttaagatcc tacaacctca 2280
 217 tctgtactga gaccccccagg gaggatgggg agcaggagca agaaccatcc agaagggtta 2340
 218 tatggcattc ccaaaccct gcatggcatc tcccatattc tcaattcacc cgggtctctc 2400
 219 tggtttgtt aaggcatgtt agatgagcat ctacgtttagt gagggtggg gaggatcaga 2460
 220 gcccttactc catgcccgt tccctccta caaaaaatac ctgaagttac catcacccca 2520
 221 ggtctttgt ccttccctc ccggatgttc ctccctccac ttggccaga gaatgc当地 2580
 222 aggaggccct aaatttctga acttccctga ggggacctac caggggttag tcctaccagc 2640
 223 gcccagggtc ttccactt catccctg gaaatgcgtt ggtgggtatg aaaccttgc 2700
 224 cctaagtagg cgctacacaa ggtgatccat accccacacc caggaggtcg gggctgc当地 2760
 225 tgcaccctcc cccattccca gactcctggc gagaccccttc tggccacgt ataggccaa 2820
 226 tcaacttccc tcactccctt gggaaaacgg ctgattcagt tacctggatt gaggtcactg 2880
 227 gcaatggctg aagtggagac gcagggtggaa ctggttcagg ccggggaaat caccactt 2940
 228 agttgtact aaaagccca gcccagccct gtttcttgg ggaggctcca ttttgc当地 3000
 229 gttacagtct gtcctcacag ctgtctccct cagacagggt gtcctgc当地 gtctttgtc 3060
 230 ccaagacttt agggcataaaa gtctgaggat gagaagatct gctatttgc当地 taaaagatta 3120
 231 ggataatgaa agctgtaaag ggtatagca aactaacaat tcctatgata ctgc当地 3180
 232 agccttgaac agtgcctggc atagagaagg tgcaccaata aatatttgc当地 tcatgaatga 3240
 233 atgaatgaat gaatgtctag aaagctaatac cctctcagcc tctgttccca gtttcttctt 3300
 234 caagcttcag attgttttc ccaacatatac gcagacttgc aagtaagggtt gggcatggc 3360
 235 tagccctcaa atgagtttgc tttcttccc tagccagctc tctattcata agtccggctt 3420
 236 tctctgc当地 aaacagaccc gatggagccc ctgcagggtt gtttctctc tcaagcaagg 3480
 237 ctttagagtt gcatatggca atttatcccc ctgtccaccc cccttc当地 atcccaggga 3540
 238 tggcagaggc accatgagc cccagaaggg acagggggta agatattgtat gatgtc当地 3600
 239 tttcttggag tggtagttgg aagagaaaat ctgccc当地 cagac tttccaaggt acaaagcatt 3660
 240 gtctttgtt gtttctcgtt tgggtgacat ccaggggacc gagtgtc当地 gagactattt 3720
 241 ttgagcaaga gcaaagagca ggaatttggg ctggc当地 gaggaagcct catcagagca 3780
 242 ggccagtgag tcaccaatg ggcccttaagt atttgaggatc cctcaactgg gagaaggaaa 3840
 243 gcaaatgccc ctcaccact tccagtc当地 aatccaccgg ctgtccaccct tgagtttgc当地 3900
 244 agcccttgtt ctcaccgtcc ctgagtttgc atgaaaggac ctggaggtt tcaacaaaca 3960
 245 gggaaaggat caactctccc cacccgtcgat tgaccaatgc attcttccct cctctgctc 4020
 246 ccagtgaatt aacaggagaa agaactccgg tattggagtt accacacata aaggatagtg 4080
 247 agtcagcaga gtgcaccctg caggaacaaat agaccccttc ttttcaagga agttctaaga 4140
 248 aaaatggcag caggcaggcc ccactcggtt gtattcactt attcatttat tcaacaaata 4200
 249 ttacttaagt gccc当地 tgc当地 aaggctcgag gtgtacaaatg atgaacagga gagctagact 4260
 250 tcttgc当地 ctgttgggg tttgtctccct agtgggaggg acagacaaaatg agcaaggaaat 4320
 251 gcacacacag gatgcacaca cagccggcagg aaccaagggtt cagttccca ggcctgggt 4380
 252 cagacagaca ggactc当地 gagactttcc cagagaaaatg cc当地 ctgagc caagggatgg 4440
 253 atctgatacc tccgaaggat gagccacat aacactcata ctttaagcc aagtcttata 4500
 254 aactccccag gtaaggcagct ggccatcaga agacccctccat ctaatgc当地 ggacaaggatg 4560
 255 atgagcttc aagaaaaatg tcctgc当地 tcttctcaat atccctggca cacagttc 4620
 256 tgaattttga atgaaccaat gaatgaaatg agcaggatat gataatccct ctccaaacac 4680
 257 gaatgtccaa gccatgc当地 gagactggg aattttccctt gttcccttcc agatgttcc 4740
 258 cagccaaatg caaagctgtg gtgttggggc tgctgc当地 gctctccgg ctccccaatg 4800
 259 acaagattaa agactacatc attctgacc tgctcggtgg actcagcggg ggatccatcc 4860
 260 agtcccaca aggtgaaggg gtccttc当地 ccaggcctgg attgc当地 caccat 4920

VERIFICATION SUMMARY
PATENT APPLICATION: US/09/749,589

DATE: 05/17/2001
TIME: 08:51:12

Input Set : A:\Seqlist.txt
Output Set: N:\CRF3\05172001\I749589.raw

L:535 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:536 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3